



**ELENA:
Installation and integration committee meeting
Minutes**

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Reference Documents

All the related document can be found in INDICO:
<https://indico.cern.ch/conferenceDisplay.py?confId=184511>



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MINUTES OF THE LAST MEETING

The minutes written by T. Erikson from the previous meeting were approved.

1 PLANNING (N. GILBERT)

NG presents a draft project planning for discussion. The project planning is accessible on his public folder.

NG gathered information from the previous meetings/workshops i.e. the milestones announced by S. Maury, the LS1, the starting of AD, the kickoff of the construction phase of the annex of the B193, the displacement of the kickers platform, the installation of the annex overhead crane, GS installation and so on.

The second part of the planning is about the installation of the ELENA machine (more or less 15 month) just before the commissioning that should start on April 2015.

NG already met few key people of the project and gathered the results in a document called "Planning Situation".

At first glance, the construction of the building could not start before April-Mai 2013. SM asked it is possible to plan the finance committee at an earlier date like September. Anastasia Lopez (AL) thinks that the actual date is already optimistic; we could try to present the project on December. NG asked AL to confirm if the construction delay can be shortened. For the moment, the construction needs 10 months. NG says that in the case where this delay could not be shortened, the kicker platform displacement task will only have about two months allowed. Another option could be to delay the AD restart to June but not later.

NG talked with T. Zickler and concluded that the magnets won't be ready for installation before May 2015. This date is not compatible with the actual project planning. SM says that it can be compatible because once the magnetic testing is done; the magnet is ready to be installed. There is no need to wait that all the magnets are tested in order to start the installation task.

NG reminds that to be able to install a magnet, instrumentation and pumping must be ready beforehand (space constraints).

NG reports that there is no potential problem with the septa as long as we can re-use CERN components. This is no longer true if the design change.

AD kicker: NG reminds that the frame of the kicker cannot be designed before having the annex building layout. F. Butin (FB) says that Kicker team does not need the final layout but just the dimension of the volume reserved for the kicker into the annex building.

Wolfgang Bartmann reminds that the kicker installation date still depends on the technology selected. The final decision on the technology to be used should be taken at the end of April.

NG reports that M.E. Angoletta has still technical doubts about the longitudinal pickup. She says that without the ELENA final design she cannot keep going with the study, she also adds that without a well defined scope of work, her management won't support this project due to man-power restrictions. C. Carli adds that the design is also influenced by the design of the longitudinal pickup. Therefore an iterative process must start between both teams. SM adds that the final ELENA preliminary design should be ended by end of April.

NG says that power converters should not be available before 2015 due to the time required by the call for tender and other administrative difficulties associated.

On Cooling and ventilation side there are still many uncertainty on the cooling water supply source: the water can be taken from AD cooling network or new cooling station is needed.

FB says that there is contradictory information. On one hand we perfectly know that the AD cooling station was also able to supply the AA but, on the other hand, Serge Deval says that 2 pumps are already running at full power.

SM says that the tasks that must be treated with priority are Magnets and annexed Building. AL says that she cannot go any faster because she has to follow the CFT steps and that it would be really difficult to end the building in less than 10 months.

NG insists on the fact that it is not realistic to assume to be able to displace the kicker platform within two months. SM says that the displacement of the kicker platform needs 5 months from the displacement to the startup of the kickers.

FB says that we must keep working on the building construction task in order to have a realistic planning. Once the planning defined, the final decision for the kicker platform will be taken.

SM alerts that the project may be delayed by one year if we cannot displace the kickers during the shutdown 2013-2014. In this case, physics with ELENA won't start before 2017...

2 STATUS OF THE PROPOSED NEW BUILDING (F. BUTIN)

The need of a new building for AD was already discussed in 2010, First pre-study shown at GTPE 1st Sept 2010, a specification document with all services integration is ready (<https://edms.cern.ch/document/1207244/1>).

SM says that Paul Collier affirmed that the final decision should be given next week.

The annex building is 570 m². It is above the TT2, near the TT7 that could be used for neutrinos. The building shape is to minimize the area over TT2. An upgrade to the actual crane will be used to transfer loads from AD to the annex. The annex will also contain the magnetic horns test bench facility.

FB would like to know if it is possible to reduce/optimize the kicker area.

NG says that the horn test bench could be closer to the AD, FB answers that the final internal layout is not closed.

For the moment, on the preliminary layout, there are no trays reserved for the control cable (only IT). FB has doubt about the 63A required by the horn test bench. It seems small.

The B193 exterior cables trays must be removed: most of the cables come from B370 and B195. This is an important work (following/identify the cables.) Those cables must disappear before annex construction and it is important to use this occasion to identify the cable that are no longer needed and those that need to be replaced. This work is probably not possible during machine run.

AL says that some building legs must be installed; Tommy Eriksson reminds that AD is highly sensitive to any B193 load repartition modification. SM says that we will need geometers to check on this particular point before the displacement of the platform and then to make a check after that.

The annex building would conserve the same Radiation classification in order to ease the passage of detectors/devices between the AD and the annex. Luc Sermeus, says that the horn cabinets come from a radioactive area. SM reminds that for the moment no air-cooling system

installation is envisaged. Luc Sermeus says that these high temperatures should not affect the kicker.

As a conclusion, FB reminds that this building is needed but it is mandatory only if Gbar is approved. SM adds that the DG will take the decision about Gbar experiment next week and both the new experiment and the B193 annex building will be treated as a whole.

3 - RADIATION PROTECTION STUDIES IN SUPPORT OF ELENA (J. VOLLAIRE)

ELENA Shielding Simulation has been run. 47% of the beam lost has been considered. Pavel Belochitskii hopes that loss rate will be reduced to nearly zero in the future. JV says that this is a conservative study and 47% is a good figure for designing the shielding.

JV concluded his presentation saying that Shielding thickness is compatible with the AD hall classification, the location of the visitor's platform must to be properly chosen to ensure minimum exposure and the concrete blocks implementation must ensure 80 cm of shielding.

For the construction of annex on top of TT2 a strategy similar to the new B93 has been adopted (6m earth vertically from TT2, trench along B193 covered with 80 cm of concrete...). The work could be done during LS1 (when there is no beam in TT2).

Upgrade of the AD chicane is under study. It must allow installing a PAD & MAD.

Door 321bis is to be relocated and shielded. The pump located after door 321bis must be changed (opening this door stop the LHC therefore no maintenance during LHC is possible). No man work is allowed in this area when TT2 is in use. SM want this pump to be removed during June short shutdown.

4 AOB

SM: says that JULICH is ready to make the H⁻/proton source. The surface available to install this source is small (1.5mx2.5m). The area must be independent from ELENA (not inside the machine, it could be a platform), people must be able to work on the source during ELENA/AD run time. It is possible that this source will work with a standalone control system (not integrated in the CERN control system environment).

SM says that a reunion with H- source team is foreseen within 2 month.

FP asks if ATRAP is aware that in the case we would have to change some magnets inside AD tunnel, we would have to remove the shielding and consequently part of their experiment (positron source area). Tommy answers that yes they are aware of this inconvenience.